

## **ABSTRACT**

Indonesia is a country that has a tropical climate, so most people need air conditioning to cool the temperature in a room, especially in office spaces and lecture buildings. But sometimes the air conditioner room is not used properly, so it can lead to wasteful use of electric power and damage to air conditioner (AC). Along with the development of technology that can solve human problems, one of them is microcontroller technology, so now many microcontroller applied to everyday life - one day on air conditioning.

This tool is used to control room temperature automatically at mechatronics workshop of Faculty of Applied Sciences Telkom University. Where the temperature reading results are displayed on the LCD screen and website. This system uses Arduino Mga 2560 for data communication with input from Ds18b20 temperature sensor and using IoT concept. Automatically adjusted temperature range with threshold temperature limit at 28 ° C and temperature lower limit at 18 ° C, and threshold can also be manually set using push button, and can manually disable the AC.

From the results that have been made and done testing, it is known that the temperature control system made room has an accuracy of  $\pm 98.95\%$ , the maximum distance of infrared communication tool to AC is 250 cm. AC will be active when the room temperature above the upper threshold of the upper limit and the air conditioner will die when the room temperature below the bottom threshold.

**Keywords:** Internet of Things, Air conditioning, Arduino